

Sub A'7

What is claimed is:

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structure further includes at least one data type descriptor for at least one data type corresponding to the process.

5 8. The method of claim 7, wherein the checkpoint data structure further includes at least one instance descriptor for at least one instance of data corresponding to each of the at least one data type.

9. The method of claim 8, wherein the checkpoint data structure further includes at least one data block corresponding to each of the at least one instance descriptor.

15 10. The method of claim 1, further comprising the step  
of modifying at least one register or memory variable  
before resuming debugging from the stored process state.

11. The method of claim 1, wherein the process state is  
20 saved when the program is in a stopped state.

12. The method of claim 11, wherein the stopped state is at a breakpoint.

25 13. An apparatus for debugging a process from a starting  
point, comprising:

a processor; and

a memory electrically connected to the processor,  
the memory having stored therein a program to be executed  
30 on the processor for performing the following steps:

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initiating debugging of\ a process;
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saving a process state in response to a first event to form a saved process state; retrieving the saved process state in response to a second event; and  
5 reinitiating debugging from the saved process state.

14. The apparatus of claim 13, wherein the first event occurs periodically.

15. The apparatus of claim 13, wherein the process state is saved in a checkpoint data structure.

16. The apparatus of claim 15, wherein the checkpoint data structure is a checkpoint file.

17. The apparatus of claim 15, wherein the checkpoint data structure includes a process descriptor for the process.

18. The apparatus of claim 17, wherein the process has control over at least one child process and the checkpoint data structure includes a process descriptor for each of the at least one child process.

19. The apparatus of claim 17, wherein the checkpoint data structure further includes at least one data type descriptor for at least one data type corresponding to the process.

Sub A'7<sub>2</sub>

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